CLAIM'S PTO

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GJT

1. Process for extracting transforming growth factor β (TGF-β) and insulin-like growth factor 1 (IGF-1) from a milk product, comprising the steps of

a) recovering a basic fraction from the milk product by means of cationic exchange chromatography;

b) passing the fraction obtained in step a) over a hydroxyapatite column;

c) eluting the hydroxyapatite column sequentially with at least two eluents of increasing salt concentration or pH, said eluents being selected from phosphate buffers, sodium chloride solutions and potassium chloride solutions to obtain two separate fractions:
i) a fraction comprising IGF-1, wherein the ratio IGF-1 to TGF-β is greater than 10;
ii) a fraction comprising TGF-β, wherein the ratio TGF-β to IGF-1 is greater than 5.

2. Process according to claim 1, further comprising step

d) eluting the hydroyapatite column with an eluent having increased salt content or pH as compared to the eluent used in step c), said eluent being selected from phosphate buffers, sodium chloride solutions and potassium chloride solutions to obtain
iii)a fraction comprising lactoperoxidase.

3. Process according to claim 1, wherein the eluent for obtaining fraction i) is a phosphate buffer having a pH of 5.5 to 7 and a phosphate concentration of 0.05 to 0.2 M and the eluent for obtaining fraction ii) is a phosphate buffer having a pH of 5.5 to 7 and a phosphate concentration of 0.2 to 0.3 M.

CLAIMS 4,5,AND 6 ARE AMENDED

4. Process according to claim 2~~ of 3~~, wherein the eluent for obtaining fraction iii) is a phosphate buffer having a pH of 5.5 to 8 and a phosphate concentration of 0.3 to 0.5 M.

5. Process according to ~~any of claims 1 to 4,~~claim 1, wherein step a) is carried out by passing the milk product at a high surface velocity and a high liquid load through a column packed with the cationic exchange resin.

6. Process according to ~~any of claims 1 to 5,~~claim 1, wherein the milk product is any mammalian milk, preferably milk from which fat has been removed.

7. Process according to claim 6, wherein the milk product is cheese whey.

CLAIM 8 IS AMENDED

8. Product obtainable with the process according to ~~any of claims 1 to 7,~~claim 1, which contains TGF-β in the substantial absence of IGF-1, wherein the ratio TGF-β to IGF-1 is greater than 5 and which contains 30 to 50 % immunoglobulins on protein.

9. Product according to claim 8, wherein the ratio TGF-β to IGF-1 is greater than 50.

10. Product according to claim 9, which contains more than 200 μg TGF-β per gram protein and less than 40 μg IGF-1 per gram protein.

CLAIM 11 IS AMENDED

11. Product obtainable with the process according to ~~any of claims 1 to 7,~~claim 1, which contains IGF-1 in the substantial absence of TGF-β, wherein the ratio IGF-1 to TGF-β is greater than 10 and which contains 30 to 50 % immunoglobulins on protein.

12. **Product according to claim 11, wherein the ratio IGF-1 to TGF-β is greater than 100.**

13. **Product according to claim 12, which contains more than 50 μg IGF-1 per gram protein and less than 10 μg TGF-β per gram protein.**

CLAIMS 14 AND 15 ARE AMENDED

14. Product obtainable with the process according to claim 2~~ or 4~~, which contains lactoperoxidase with an activity of at least 1200 Units/mg.

15. Product according to ~~any of claims 8 to 13,~~claim 8, containing binding factors for the growth factors, which can be released upon acidification.